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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/569,818	11/01/2006	Ewald Karl Michael Guenther	12406-063US1	5330

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EXAMINER	
RALEIGH, DONALD L	

ART UNIT	PAPER NUMBER
2879	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/569,818	GUENTHER ET AL.	
	Examiner	Art Unit	
	DONALD L. RALEIGH	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01/19/2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/27/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The Amendment, filed on January 19, 2007 has been entered and acknowledged by the Examiner.

Claims 1-25 are pending in the instant application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8-10, 16-18 and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Leising et al (US Patent No. 6,117,529).

Regarding Claim 1, Leising discloses, at least in Figure 4, and Column 8, lines 50-57, a method for manufacturing an organic electro-luminescent device (abstract, lines 1-2), the method comprising the steps of: providing a substrate (1); arranging at least one electrode (2) on the substrate(1), the electrode(1) being made of a conductive film (Column 11, lines 21-23) to form a subassembly; forming at least one organic layer (3)(lines 51-52) on the subassembly, the at least one organic layer (3) being made of an organic electro-luminescent medium (lines 51-52), so that the at least one organic layer (3) covers the at least one electrode (2)(lines 54-57); forming a conductive film (6)(cathode, lines 54-55) over the at least one organic layer; and removing at least one portion of the conductive film using a radiation method (laser, Column 16, lines 57-58)

to create electrodes that are electrically isolated from each other (removing the intermediate spaces in (6) isolates them).

Regarding Claim 2, Leising discloses a method for manufacturing a device wherein the step of arranging at least one electrode comprises arranging a plurality of electrodes in a stripe-like manner.(Column 6, lines 57-62).

Regarding Claim 3, Leising discloses, at least in Figure 4, a method for manufacturing a device wherein the step of removing at least one portion of the conductive film comprises creating stripe-like electrodes (6) extending in a direction perpendicular (Column 6, lines 65-67) to the stripe-like electrodes (2) (Column 6, lines 57-67 discloses base electrodes (2) in a stripe pattern following by top electrode (6) in a stripe pattern).

Regarding Claim 4, Leising discloses a method for manufacturing a display device wherein the step of removing at least one portion of the conductive film using a radiation method comprises using a laser beam (Column 16, lines 57-58).

Regarding Claim 5, Leising discloses a method for manufacturing a device wherein the step of removing at least one portion of the conductive film using a radiation method comprises using an electron beam (Column 16, lines 54-56).

Regarding Claim 8, Leising discloses, at least in Figure 4, a method for manufacturing a device wherein the method further comprises a step of forming a plurality of insulating ribs (Column 6, line 60) on the at least one electrode (2, base electrode)(lines 59-60); wherein removing the at least one portion of the conductive film (6)(Column 16, line 59) includes removing a portion of the conductive film (line 58) from over the insulating ribs (Column 6, lines 65-66) and includes using a radiation method (Column 16, line 56, laser ablation).

Regarding Claim 9, Leising discloses, at least in Figure 4, a method for manufacturing a device wherein the method further comprises a step of forming a plurality of insulating ribs (Column 6, line 60, insulating material) in a stripe-like manner (line 59) on the electrodes (2), the insulating ribs extending in a direction perpendicular to the electrodes (lines 60-61); wherein removing the at least one portion of the conductive film includes removing a portion of the conductive film from over the insulating ribs and includes using a radiation method.

Regarding Claim 10, Leising discloses, at least in Figure 4, a method for manufacturing a device wherein the step of forming the plurality of ribs on the electrode (2) comprises arranging the plurality of ribs in laterally spaced rows parallel to each other (Column 6, lines 57-61, parallel stripes).

Regarding Claim 16, Leising discloses, at least in Figure 4, an organic electro-luminescent device (abstract, line 1) comprising: a substrate (1); at least one electrode (2) arranged on the substrate (1) and formed of a conductive film (Column 11, lines 21-23); a plurality of insulating members comprising a valley and consisting at least partially of an insulating material and arranged on the electrode (Column 6, lines 59-62); at least one organic layer formed of an organic electro-luminescent medium and arranged at least between two adjacent insulating members (lines 62-64); and upper electrodes (6) made of a conductive film deposited over the at least one organic layer (lines 65-67).

Regarding Claim 17, Leising discloses, at least in Figure 4,a device, having a plurality of strip-like transparent electrodes (Column 6, lines 57-67)

Regarding Claim 18, Leising discloses, at least in Figure 4, a device having a plurality of stripe-like isolating members extending in a direction perpendicular to the electrodes (Column 6, lines 59-62).

Regarding Claim 20, Leising discloses, at least in Figure 4, a display device wherein the insulating material forms insulating ribs on the electrode (Column 6, lines 57-62, parallel stripes (ribs) on base electrode (2)).

Regarding Claim 21, Leising discloses, at least in Figure 4, a display device wherein the insulating material forms insulating ribs on the electrode (2) and the organic electro-luminescent medium (3) is over the insulating ribs (Column 6, lines 57-64).

Regarding Claim 22, Leising discloses, at least in Figure 4 and Column 6, lines 57-67, a device wherein insulating material (line 60) forms insulating ribs on the electrode (base electrode, line 58), the organic electro-luminescent medium is over the insulating rib (lines 63-64) and part of the conductive film (top electrode line 65-66) is over the organic electro-luminescent medium.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leising in view of Veres et al (US PG Pub. NO. 2006/0105492).

Regarding Claim 6, Leising fails to exemplify a method for manufacturing a device wherein the step of removing at least one portion of the conductive film comprises removing at least a portion of the organic layer.

In the same field of endeavor, Veres teaches in Paragraph [0129], lines 10-15, removing at least one portion of the conductive film (electrode 63, lines 13-15)

comprises removing at least a portion of the organic layer (64) in order to produce electrodes with dopant rich surfaces (line 16).

It would have been obvious to one of ordinary skill , at the time of the invention, to incorporate the method of Veres into the method of Leising in order to produce electrodes with dopant rich surfaces.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leising in view of Xiao et al (US PG Pub. No. 2005/0009227).

Regarding Claim 7, Leising fails to exemplify the device manufacturing method, wherein the step of forming a conductive film is carried out by vacuum deposition.

In the same field of endeavor, Xiao teaches in Paragraph [0004], lines 16-20, forming a conductive film (electrodes) by vacuum deposition because this is the usual method for constructing electrodes (lines 18-20).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to utilize the process of vacuum deposition, as taught by Xiao in the device method of Leising because this is the usual method for constructing electrodes

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leising in view of Jakobi et al (US PG Pub. No. 2003/0129297).

Regarding Claim 11, Leising fails to exemplify method for manufacturing a device wherein the step of forming the plurality of ribs on the at least one electrode comprises heating to the ribs to cross-link the material of the ribs.

In the same field of endeavor, Jakobi teaches a method for manufacturing a device (Page 7, Claim 16, lines 1-5) wherein the step of forming the plurality of ribs (dielectric film layer) on the at least one electrode (uncured conductive film layer) comprises heating (curing line 2) to the ribs (dielectric layer) to cross-link the material of the ribs (line 4). In addition, Claim 15, line 2 teaches that the dielectric is a thermoset coating (cures with heating) (Also, see Paragraph [0042] lines 15-16 (elevated temperatures).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the cross-link method taught by Jakobi into the device method of Leising to provide more stable adhesion between layers.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leising in view of Jakobi and further in view of Nagayama et al (US PG Pub. No. 2004/0062857).

Regarding Claim 12, Leising, as modified by Jakobi, fails to exemplify the method for manufacturing a device wherein the plurality of ribs are made of a photoresist and are subjected to heat of approximately 220 C.

In the same field of endeavor, Nagayama teaches in Paragraph [0031], lines 1-5, using photoresist for an insulating layer (ribs) and subjected them to heat (baked). Also, Paragraph [0036], lines 7-8 teaches that the baking temperature is from 150 to above 200 C to form an insulating layer without complication of a manufacturing process (Paragraph [0008], lines 1-5).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the photoresist method as taught by Nagayama into the method of Leising, as modified by Jakobi, to form an insulating layer without complication of a manufacturing process.

Claims 13, 19, 23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leising in view of Duineveld et al (US PG Pub. No. 2002/0163300).

Regarding Claim 13, Leising fails to exemplify a method for manufacturing a device wherein the step of forming the plurality of ribs on the electrode comprises chamfering the edges of the ribs opposite to the electrode.

In the same field of endeavor, Duineveld teaches an electroluminescent device (abstract line 1) wherein the step of forming the plurality of ribs on the electrode (Paragraph [0110], lines 1-4, ribs are (15)) comprises chamfering the edges of the ribs (15) opposite to the electrode (Paragraph [0118], last 3 lines (rounded)) to reduce the risk that the electrodes would become unintentionally electrically insulated when crossing a section (15, (rib)).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the rounding method as taught by Duineveld into the method of Leising to reduce the risk that the electrodes would become unintentionally electrically insulated when crossing a section (15, (rib)).

Regarding Claim 19, Leising fails to exemplify a device according wherein the insulating member comprises portions of the organic electroluminescent medium.

In the same field of endeavor, Duineveld teaches, in Paragraph [0108], a first electrode layer (5) and a second electrode layer (11) with layers (7, 9R,9G) between the electrode layers. This indicates there is no insulation layer between the electrodes except the electroluminescent medium. Duineveld does this to produce a matrix display device of the passive type.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the structure as taught by Duineveld into the method of Leising to produce a matrix display device of the passive type.

Regarding Claim 23, Leising fails to exemplify a device wherein the insulating member is in the shape of a "U".

In the same field of endeavor, Duineveld teaches, Paragraph [0118], a device wherein the insulating member is in the shape of a "U". Paragraph [0118] , line 11, teaches rounding the edges of the rib (15) which would create a "U" shape. Although, these ribs are for a different purpose than Leising, they are comprised of insulating material (Paragraph [0118], last line (insulated)) and the technique could certainly be applied to any insulating ribs. Duineveld rounds the edges to reduce the risk that the electrodes would become unintentionally electrically insulated when crossing a section (last 2 lines).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the rounding method as taught by Duineveld into the method of Leising to reduce the risk that the electrodes would become unintentionally electrically insulated when crossing a section.

Regarding Claim 25, Leising fails to disclose a display device wherein the ends of the legs of the "U" comprise material of the conductive film.

In the same field of endeavor, Duineveld teaches in Figure 1, wherein the ends of the legs of the "U" (15) comprise material of the conductive film (5, first electrode)(see Paragraph [0108]) to reduce the risk that the electrodes would become unintentionally electrically insulated when crossing a section (Paragraph [0118], last 2 lines).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the structure as taught by Duineveld into the device of Leising to reduce the risk that the electrodes would become unintentionally electrically insulated when crossing a section .

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leising in view of Duineveld and further in view of Yamazaki et al (US Patent No. 6739931).

Regarding Claim 24, Leising, as modified by Duineveld, fails to exemplify a device wherein the ends of the legs of the "U" comprise the medium of the at least one organic layer.

In the same field of endeavor, Yamazaki teaches in (Figure beneath abstract on first page), wherein the ends of the legs of the "U" (of insulation layer 201) comprise the medium of the at least one organic layer (202). (The ends of layer (201) touch the EL layer (202)) for the purpose of preventing discontinuity in the EL film and short circuiting. (Column 2, lines 1-2).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the bump structure as taught by Yamazaki into the method of Leising, as modified by Duineveld, for the purpose of preventing discontinuity in the EL film and short circuiting.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leising in view of Aoki et al (US PG Pub. No. 2003/0234398)

Regarding Claim 14,Leising fails to exemplify a method for manufacturing a device wherein the step of removing at least one portion of the conductive film comprises removing at least a portion of an insulating rib.

In the same field of endeavor, Aoki teaches in Paragraph [0117], lines 1-6 the method of removing (etching away) at least one portion of the conductive film (gate electrode film (14)) which comprises removing at least a portion of an insulating rib

(insulating film 13)) to provide a device that minimizes short circuiting between the source and drain region and the gate electrode (Paragraph [0008].

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the etching method as taught by Aoki into the method of Leising to provide a device that minimizes short circuiting between the source and drain region and the gate electrode.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leising in view of Okamoto et al (US PG Pub. No. 2004/0135151).

Regarding Claim 15, Leising fails to exemplify a method for manufacturing a device wherein removing the at least one portion of the conductive film comprises removing parts of an insulating rib thereby shaping the insulating rib into a "U"-shape.

In the same field of endeavor, Okamoto teaches in Paragraph [0068], a method for manufacturing a device wherein removing the at least one portion of the conductive film (lines 10-13, first electrode) comprises removing parts of an insulating rib (19, lines 8-10, etching) thereby shaping the insulating rib (19) into a "U" shape (lines 3-10)(Also see figure 1A for U shaped ends of layer (19)(one end shown).Okamoto does this to avoid a defect in the upper edge portion of the insulator. (lines 5-8).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the "U" shaped insulator as taught by Okamoto into the method of Leising to avoid a defect in the upper edge portion of the insulator.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DONALD L. RALEIGH whose telephone number is (571)270-3407. The examiner can normally be reached on Monday-Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Donald L Raleigh/
Examiner, Art Unit 2879

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